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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,894	12/04/2000	Larry Bert Brenner	AUS9-2000-0604-US1	7312

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Joseph T. Van Leeuwen
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EXAMINER

ANYA, CHARLES E

ART UNIT	PAPER NUMBER
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2126

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DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,894

Applicant(s)

BRENNER ET AL.

Examiner

Charles E Anya

Art Unit

2126

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date #2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-32 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-4, 12-14 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,761,659 to Bertoni et al.**

4. As claim 1, Bertoni teaches a method of managing a shared resource, said method comprising: determining whether a process identifier included in a queue corresponds to a read requestor or a write requestor (Col. 2 Ln. 27 – 38, figure 6 Col. 10 Ln. 1 – 8), allowing the write requestor to write to the shared resource in response to the process identifier corresponding to the write requestor and allowing one or more successive read requestors to read from the shared resource in response to the process identifier corresponding to one of the read requestors (Col 5 Ln. 55 – 67, Col. 6 Ln. 1 – 10, figure 9 Col. 14 Ln. 36 – 41).

5. Although Bertoni is silent with respect to using process identifier to locate a process in the queue one of ordinary skill in the art at the time the invention was made could have modified the system of Bertoni to include a process identifier so that the different processes could be uniquely identified.

6. As to claim 2, Bertoni teaches the method as described in claim 1 further comprising: setting a resource lock in an available mode, setting the resource lock in a read mode in response to the first of the one or more read requestors accessing the available resource lock and granting each of the read requestors read access to the resource lock (figure 2A/B and 3 Col. 6 Ln. 16 – 67, figure 5 Col. 8 Ln. 17 – 59).

7. As to claim 3, Bertoni teaches the method as described in claim 1 further comprising: setting a write wanted flag in response to a write requestor requesting a resource lock after the resource lock has been set in read mode, requesting lock access by one or more read requestors, the requesting occurring after the write wanted flag is set, granting lock access to a first group of the read requestors in response to the first group being included in the one or more successive read requestors and denying lock access to a second group of the read requestors in response to the second group not being included in the one or more successive read requestors (figure 6 Col. 9 Ln. 1 – 45).

8. As to claim 4, Bertoni teaches the method as described in claim 3 further comprising: setting a woken up flag for each read requestor included in the first group (Col. 2 Ln. 228 – 38).

9. As to claims 12 – 14, see the rejection of claim 1 – 3 respectively.

10. As to claims 22 – 25, see the rejection of claim 1 – 4 respectively.

11. Claims 5-9,15-19 and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. 5,761,659 to Bertoni in view of U.S. Pat. No. 5,490,270 to Devarakonda et al.

12. As to claim 5, Bertoni is silent the method as described in claim 1 further comprising: releasing a resource lock and granting a requesting process ownership of the resource lock, wherein the requesting process is the first process to request the resource lock after the releasing.

13. Devarakonda teaches the method as described in claim 1 further comprising: releasing a resource lock and granting a requesting process ownership of the resource lock, wherein the requesting process is the first process to request the resource lock after the releasing (“...UPGRADE...” Col. 2 Ln. 59 – 63, Col. 4 Ln. 11 – 30).

14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Devarakonda and Bertoni because the

teaching of Devarakonda would improve the system of Bertoni by providing means of not relinquishing a token/lock until a process completes execution, thus reducing context switching.

15. As to claim 6, although Bertoni as modified is silent with respect to the method as described in claim 5 wherein the requesting process does not correspond with any of the process identifiers included in the queue, this step would be inherent since a resource could be unlocked at the instance of the requesting process making the request and as result would not queued to wait for the resource (i.e. a resource is available at the time of the request, thus no need for queuing).

16. As to claim 7, Bertoni teaches the method as described in claim 5 wherein the requesting process corresponds with one of the process identifiers included in the queue (Col. 14 Ln. 36 – 41, also see rejection of claim 1).

17. As to claim 8, Devarakonda teaches the method as described in claim 5 further comprising: speeding up processing for one or more read requestors that acquire the resource lock (Col. 4 Ln. 11 – 30).

18. As to claim 9, Devarakonda teaches the method as described in claim 8 wherein the speeding up includes granting one or more read requestors a temporary time slice exception (Col. 4 Ln. 11 – 30).

19. As to claims 15 and 26, see the rejection of claim 5.
20. As to claims 16 and 27, see the rejection of claim 6.
21. As to claims 17 and 28, see the rejection of claim 7.
22. As to claims 18 and 29, see the rejection of claim 8.
23. As to claims 19 and 30, see the rejection of claim 9.
24. **Claims 10,11,20,21,31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,761,659 to Bertoni in view of U.S. Pat. No. 5,872,909 to Wilner et al.**
25. As to claim 10, Bertoni is silent with respect to the method as described in claim 1 further comprising: identifying an upgrader in the queue; and granting the upgrader a write lock to the shared resource.
26. Wilner teaches to the method as described in claim 1 further comprising: identifying an upgrader in the queue and granting the upgrader a write lock to the shared resource (Col. 5 Ln. 21 - 57 NOTE: although Wilner does not explicitly teach

identifying task from a queue, this step would be inherent since the task could have been waiting in a list or queue for a write lock).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Wilner and Bertoni because the teaching of Wilner would improve the system of Bertoni by providing a solution to priority inversion problem (Col. 5 Ln. 21 - 57).

28. As to claim 11, Wilner teaches the method as described in claim 10 further comprising: boosting a priority of the upgrader prior to the upgrader writing to the shared resource (Col. 5 Ln. 21 – 57).

29. As to claims 20, 31 and 21,32, see the rejection of claims 10 and 11 respectively.

Response to Arguments

30. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E Anya whose telephone number is (703) 305-3411. The examiner can normally be reached on M-F (8:30-6:00) First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, An Meng-Ai can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles E Anya
Examiner
Art Unit 2126

cea



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